

Power Solutions

## Electron Multipliers

# 7545m

# 7545mh5

## Ceramic Channel Electron Multiplier for Finnigan MAT GCQ<sup>®</sup>/LCQ<sup>®</sup> Mass Spectrometers

The Model 7545mh5 is ITT's channel electron multiplier (CEM) assembly used in Finnigan MAT GCQ<sup>™</sup> and LCQ<sup>™</sup> mass spectrometers. The monolithic ceramic construction and advanced ion-optical design significantly extends multiplier life, enhances sensitivity, and offers greater linear dynamic range. Its exclusive mounting both speeds multiplier replacement and assures perfect alignment.



### Features

- Exclusive mounting hardware permits fast replacement
- Background signal less than instrument baseline noise, therefore, microphonics are virtually eliminated
- Capable of high output current - greater than 10  $\mu$ A
- Vacuum bakeable at 350°C
- Operable to  $7 \times 10^{-4}$  torr (He) and 200°C

### Benefits

- Extended multiplier life
- Increased sensitivity
- Increased linear dynamic range
- Gain tailored for use in Finnigan MAT Model GCQ<sup>®</sup>/LCQ<sup>®</sup> mass spectrometers
- Capable of absorbing high thermal and physical shock

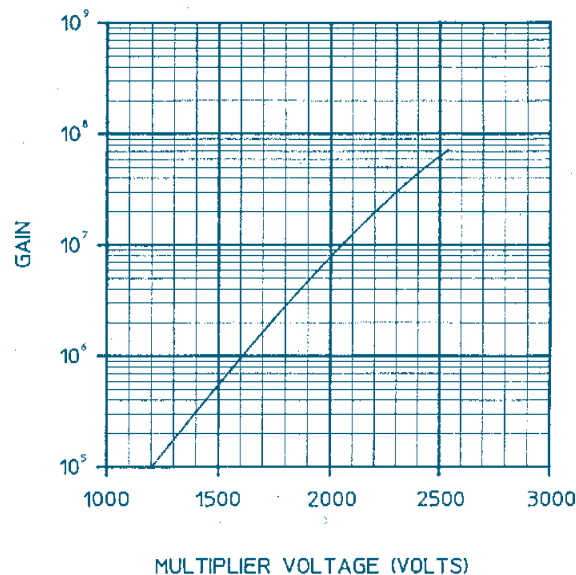
## SPECIFICATIONS

### Operating Parameters

Supply Voltage	Min. 1200, Max. 3000 Vdc			
Vacuum	Max. $7 \times 10^{-4}$ torr (He)			
CEM Power Dissipation	Max 200 mW			
Average Anode Current	Max 15 $\mu$ A			
Resistance @ 10Vdc:				
Total ( $R_T$ )	Min. 25, Max 40 M $\Omega$			
Anode Bias ( $R_A$ )	Min. 1.5, Max 2.5 % $R_T$			
Thermal Coefficient of Resistance: ( $TCR_{RT}$ , $TCR_{RA}$ )	Max -0.6% / $^{\circ}$ C			
Gain <sup>(2)</sup> (typ; see fig. 1)	1200Vdc	1500 Vdc	1800 Vdc	
	$1 \times 10^5$	$6 \times 10^5$	$5 \times 10^6$	
Background Signal:				
Output Dark Pulses (max)	05	.05	.05	counts/sec
Output Dark Current (typ)	$8 \times 10^{-16}$	$3 \times 10^{-15}$	$4 \times 10^{-14}$	amps

Notes: (1) For operation at elevated ambient temperatures, ITT Exelis can provide derating information. (2) Values specified for electron gain are those existing at the time of shipment. Gain typically decreases with use. Periodic supply voltage increases are required to maintain the gain above a specific level. Multipliers are shipped in sealed bags containing dry nitrogen - it is recommended that the seal not be broken until use.

### Typical Gain Characteristics



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